

REMARKS

Claims 10, 12, 13 and 19-24 are pending in this application. In view of the following remarks, reconsideration and allowance are respectfully requested.

I. Restriction Requirement

Applicants affirm the election of Group I, claims 1-3, 10, 12 and 13, without traverse.

II. Rejection under 35 U.S.C. §103

The Office Action rejects claims 10, 12, 13 and 19-24 as having been obvious over U.S. Patent No. 4,769,073 to Tastu et al. ("Tastu") in view of European Patent No. 444,470 to Ashley et al. ("Ashley") and further in view of U.S. Patent No. 6,171,572 to Aozasa ("Aozasa"). The rejection is respectfully traversed.

Independent claims 10, 19 and 22 each specifically requires an abrasive for polishing various surfaces, the abrasive containing a sol, which includes particles dispersed in an aqueous medium, wherein the *abrasive* has a pH of 3 to 6 or 8 to 10. However, none of Tastu, Ashley, and Aozasa, alone or in combination, teach or suggest at least this feature of the claimed invention.

The Office Action relies on Tastu for teaching an abrasive having a pH of 3 to 6 or 8 to 10. However, Tastu, at most, describes a process for synthesizing a polishing composition by mixing a cerium salt solution, a basic solution and an aqueous solution of the salt of at least one trivalent rare earth selected from among the lanthanides and yttrium, wherein the pH of the reaction medium must be greater than 6, but not greater than 10. See abstract and column 7, line 28 to column 8, line 5. Accordingly, Tastu describes the pH of the intermediary *reaction medium* in which the cerium oxide is formed. However, the resulting cerium oxide precipitate is subsequently filtered from the reaction medium, dried, and calcined before the cerium oxide is optionally suspended in an aqueous solution, "preferably [in] deionized or distilled water." See column 7, line 28 to column 8, line 5 and column 9,

lines 21-22. Accordingly, Tastu is silent as to the pH of the final product of the resulting cerium oxide in the aqueous solution that may be used as a polishing composition. Moreover, it is assumed that when the cerium oxide precipitate obtained according to Tastu's description is dispersed in water in order to obtain a polishing liquid, the resulting polishing liquid is expected to have a pH of a neutral region. Accordingly, Tastu does not teach or suggest the pH of an abrasive comprising a sol, wherein the abrasive has a pH of 3 to 6 or 8 to 10, as required in independent claims 10, 19 and 22.

Likewise, because both Ashley and Aozasa are silent as to the pH of an abrasive, Tastu, Ashley and Aozasa, alone or in combination, fail to teach or suggest a composition comprising a sol having a pH of 3 to 6 or 8 to 10, as required in independent claims 10, 19 and 22.

In contrast, the present specification, in paragraphs [0049] and [0050] describe adjusting the abrasive solution by adding an acidic or basic substance, as needed, in order to obtain a pH of 3 to 6 or 8 to 10. Moreover, Figure 3 shows that a sol comprising oxides of lanthanum, neodymium or a combination thereof, in addition to cerium oxide, dispersed in an aqueous medium, is stable in the pH ranges of 3 to 5 and pH 8 to 10. Accordingly, the use of the stable sol having a pH in the ranges as required by the claims prevents aggregation of particles, and therefore provides for an excellent surface polishing material.

The references neither disclose a sol with a pH in the ranges as provided by the present claims, nor any benefits that would be provided by its use thereof. For at least this reason, any combination of the cited references would not have rendered obvious the claimed invention. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 10, 12, 13 and 19-24 is earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:

Notice of Appeal to the Board of Patent Appeals and Interferences and Petition for Extension of Time

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